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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,558	11/12/2003	Shigeaki Tanaka	16869K-099600US	8812

20350 7590 07/22/2005

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EXAMINER
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CHANG, YEAN HSI

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/712,558

Applicant(s)

TANAKA ET AL. 

Examiner

Yean-Hsi Chang

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                                         |                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                             | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/12/03, 10/18/04</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “a controller”, “an inlet ventilating surface”, “an exhaust ventilating surface”, “surfaces facing said inlet surfaces of said disk boxes”, “exhaust surfaces in said rack”, and “a heat radiation member” in claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: The "said exhaust surfaces in said rack" lacks antecedent basis. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US 6,150,050 B1).

Lee teaches a disk array apparatus (202, fig. 2) comprising: a plurality of disk modules (1-16, fig. 7), in each of which a disk for recording information and a controller (inherent feature, not shown) for controlling operation of said disk are accommodated in a cabinet (902) having a plane (surface of 902), a plurality of disk boxes (upper and lower portions of 700 fig. 7 may be consider as two disk boxes), each of which is configured by including an inlet ventilating surface and an exhaust ventilating surface

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(both surfaces are not shown, however, the perforated latitudinal ribs shown in fig. 6E may be considered as exhaust ventilating surfaces, and the outer ribs may be considered as inlet ventilating surfaces) arranged parallel to said inlet surface, and in each of which said plurality of disk modules are accommodated in line along a horizontal direction (as shown in fig. 7) such that said planes are orthogonal to said inlet surfaces, a rack (750, fig. 6D), in which a disk unit (700, fig. 7) is formed by arranging two of said disk boxes along the horizontal direction such that said exhaust surfaces thereof face each other in parallel (see fig. 6E), and in which a plurality of said disk units are accommodated in a stacking manner along a vertical direction (see figs. 6D and 9A), and of which surfaces facing said inlet surfaces of said disk boxes are capable of ventilation, and an exhaust fan which is arranged in said rack (212, fig. 1) and allows air to pass through said inlet and exhaust surfaces of said disk boxes and to flow through a draft passage (not shown) formed parallel to said exhaust surfaces (on top of 200) in said rack to an outside of said rack, wherein a heat radiation member (surface of 902) is provided on each of said planes of said disk modules (claim 1).

***Allowable Subject Matter***

5. Claims 2-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and with objections to the drawings and claim 1 resolved.

6. The following is a statement of reasons for the indication of allowable subject matter: The best prior art of record, Lee et al. (US 6,150,050 B1), Papa et al. (US 6,175,490 B1), Rabinovitz (US 6,853,546 B2), and Konshak et al. (US 6,862,173 B1), taken alone or in combination, fails to teach or fairly suggest a disk array apparatus comprising, in addition to limitations claimed in claim 1: ends of heat radiation members of disk modules protrude from exhaust ports of disk boxes to a draft passage formed parallel to exhaust surfaces in a rack to an outside of said rack as set forth in claims 2 and 7; wherein said disk modules accommodated in a portion far from an exhaust fan include said heat radiation members with higher thermal conductivity as compared with thermal conductivity of said heat radiation members of said disk modules accommodated in a portion close to said exhaust fan as set forth in claim 5; and wherein said exhaust fan is arranged in an upper portion of said rack, and said disk modules accommodated in a lower portion of said rack include said heat radiation members with higher thermal conductivity as compared with thermal conductivity of said heat radiation members of said disk modules accommodated in the upper portion as set forth in claim 6. Claims 3-6 and 13-15, and 8-12 are dependent claims from claims 2, and 7, respectively.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Papa et al. (US 6,175,490 B1), Rabinovitz (US 6,853,546 B2), and Konshak et al. (US 6,862,173 B1).

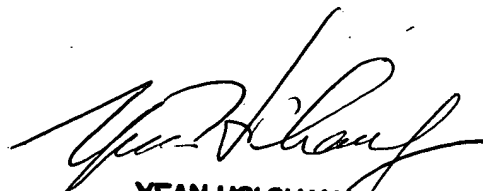
***Correspondence***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yean-Hsi Chang whose telephone number is (571) 272-2038. The examiner can normally be reached on 07:30 - 16:00, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the Art Unit phone number is (571) 272-2800, ext. 35. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8558.

Yean-Hsi Chang  
Primary Examiner  
Art Unit: 2835  
July 20, 2005



**YEAN-HSI CHANG**  
**PRIMARY EXAMINER**